

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

- 1        1. (Currently amended) A method for determining a class dependency that  
2 identifies a supporting class on which a target class depends, wherein the target  
3 class is defined in an object-oriented programming language, comprising:
  - 4            receiving a representation of the target class at a first platform-independent  
5 virtual machine;
  - 6            creating a model of the target class from the representation;
  - 7            analyzing the model to detect references to the supporting class;
  - 8            if a supporting class is detected, determining a class dependency for the  
9 supporting class;
  - 10          creating a list of dependent classes for the target class and supporting  
11 classes;
  - 12          sharing the list of dependent classes with a second platform-independent  
13 virtual machine so that the second platform-independent virtual machine does not  
14 need to create the list of dependent classes; and
  - 15          saving the list of dependent classes of the target class as well as the list of  
16 dependent classes of the supporting classes in a cache which stores class  
17 dependency information to facilitate subsequent lookups of dependent classes of  
18 the target class.

- 1        2. (Original) The method of claim 1, further comprising, identifying  
2 classes that an object depends upon by:

3 receiving a representation of the object;  
4 serializing the referenced object;  
5 parsing the data resulting from the object serialization to identify classes  
6 referenced from the target object's properties, configuration, or state; and  
7 determining the dependent classes of the referenced object.

1 3. (Original) The method of claim 1, further comprising saving the list of  
2 dependent classes to a storage structure.

1 4. (Original) The method of claim 3, wherein the storage structure is one  
2 of a hash table and a database.

1 5. (Original) The method of claim 1, wherein creating the list of dependent  
2 classes includes creating one of a distribution list and a distribution file.

1 6. (Original) The method of claim 2, further comprising:  
2 inserting the object into an object database;  
3 determining if the target class and supporting classes for the target class  
4 are in the class path; and  
5 adding the target class and supporting classes for the target class to the  
6 class path if necessary.

1 7. (Original) The method of claim 2, further comprising:  
2 retrieving the object from the object database;  
3 determining if the target class and supporting classes for the target class  
4 are in the class path; and  
5 adding the target class and supporting classes for the target class to the  
6 class path if necessary.

1           8. (Original) The method of claim 1, further comprising filtering the list of  
2 identified classes to remove duplicate and core class references.

1           9 (Canceled).

1           10. (Currently amended) A computer-readable storage medium storing  
2 instructions that when executed by a computer cause the computer to perform a  
3 method for determining a class dependency that identifies a supporting class on  
4 which a target class depends, wherein the target class is defined in an object-  
5 oriented programming language, the method comprising:

6           receiving a representation of the target class at a first platform-independent  
7 virtual machine;

8           creating a model of the target class from the representation;

9           analyzing the model to detect references to the supporting class;

10          if a supporting class is detected, determining a class dependency for the  
11 supporting class;

12          creating a list of dependent classes for the target class and supporting  
13 classes;

14          sharing the list of dependent classes with a second platform-independent  
15 virtual machine so that the second platform-independent virtual machine does not  
16 need to create the list of dependent classes; and

17          saving the list of dependent classes of the target class as well as the list of  
18 dependent classes of the supporting classes in a cache which stores class  
19 dependency information to facilitate subsequent lookups of dependent classes of  
20 the target class.

1           11. (Original) The computer-readable storage medium of claim 10,  
2 wherein the method further comprises, identifying classes that an object depends  
3 upon by:

4           receiving a representation of the object;  
5           serializing the referenced object;  
6           parsing the data resulting from the object serialization to identify classes  
7 referenced from the target object's properties, configuration, or state; and  
8           if a target class is identified, determining the dependent classes of the  
9 target class.

1           12. (Original) The computer-readable storage medium of claim 10,  
2 wherein the method further comprises saving the list of dependent classes to a  
3 storage structure.

1           13. (Original) The computer-readable storage medium of claim 12,  
2 wherein the storage structure is one of a hash table and a database.

1           14. (Original) The computer-readable storage medium of claim 10,  
2 wherein creating the list of dependent classes includes creating one of a  
3 distribution list and a distribution file.

1           15. (Original) The computer-readable storage medium of claim 11,  
2 wherein the method further comprises:  
3           inserting the object into an object database;  
4           determining if the target class and supporting classes for the target class  
5 are in the class path; and  
6           adding the target class and supporting classes for the target class to the  
7 class path if necessary.

1        16. (Original) The computer-readable storage medium of claim 11,  
2 wherein the method further comprises:  
3            retrieving the object from the object database;  
4            determining if the target class and supporting classes for the target class  
5 are in the class path; and  
6            adding the target class and supporting classes for the target class to the  
7 class path if necessary.

1        17. (Original) The computer-readable storage medium of claim 10,  
2 wherein the method further comprises filtering the list of identified classes to  
3 remove duplicate and core class references.

1        18 (Canceled).

1        19. (Currently amended) An apparatus that determines a class dependency  
2 that identifies a supporting class on which a target class depends, wherein the  
3 target class is defined in an object-oriented programming language, comprising:  
4            a receiving mechanism that is configured to receive a representation of the  
5 target class at a first platform-independent virtual machine;  
6            a modeling mechanism that is configured to create a model of the target  
7 class from the representation;  
8            an analysis mechanism that is configured to analyze the model to detect  
9 references to the supporting class;  
10          a supporting mechanism that is configured to determine a class  
11 dependency for the supporting class;  
12          a listing mechanism that is configured to create a list of dependent classes  
13 for the target class and supporting classes;

14                   a sharing mechanism that is configured to share the list of  
15                   dependent classes with a second platform-independent virtual machine so  
16                   that the second platform-independent virtual machine does not need to  
17                   create the list of dependent classes; and  
18                   a cache configured to store class dependency information; and  
19                   a saving mechanism configured to save the list of dependent classes of the  
20                   target class as well as the list of dependent classes of the supporting classes in the  
21                   cache to facilitate subsequent lookups of dependent classes of the target class.

1                 20. (Original) The apparatus of claim 19, wherein the receiving  
2                   mechanism is additionally configured to receive a representation of an object;  
3                   a serializing mechanism is configured to serialize the referenced object;  
4                   a parsing mechanism configured to parse the data resulting from the object  
5                   serialization to identify classes referenced from the target object's properties,  
6                   configuration, or state; and  
7                   a supporting mechanism that is configured to determine the dependent  
8                   classes of the target class.

1                 21. (Original) The apparatus of claim 19, wherein the listing mechanism is  
2                   configured to save the list of dependent classes to a storage structure.

1                 22. (Original) The apparatus of claim 21, wherein the storage structure is  
2                   one of a hash table and a database.

1                 23. (Original) The apparatus of claim 19, wherein the listing mechanism is  
2                   configured to create the list of dependent classes, including creating one of a  
3                   distribution list and a distribution file.

1           24. (Original) The apparatus of claim 20, further comprising:  
2           an insertion mechanism configured to insert the object into an object  
3        database;  
4           a determining mechanism configured to determine if the target class and  
5        supporting classes for the target class are in the class path; and  
6           an adding mechanism configured to add the target class and supporting  
7        classes for the target class to the class path if necessary.

1           25. (Original) The apparatus of claim 20, further comprising:  
2           a retrieving mechanism configured to retrieve the object from an object  
3        database;  
4           a determining mechanism configured to determine if the target class and  
5        supporting classes for the target class are in the class path; and  
6           an adding mechanism configured to add the target class and supporting  
7        classes for the target class to the class path if necessary.

1           26. (Original) The apparatus of claim 19, further comprising a filtering  
2        mechanism configured to filter the list of identified classes to remove duplicate  
3        and core class references.

1           27 (Canceled).